

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for processing ~~up to a plurality of one~~ or more radiographic images of a subject, said method comprising the steps of:

capturing at least two visible light images of the subject, ~~two or more of the~~ visible light images in correspondence to ~~at least one~~ each radiographic image obtained from a radiographic source, the at least two visible light images being captured by one or more visible light cameras; ~~each visible light camera in a known~~ obtaining a geometric relation to a between the radiographic source and the visible light cameras at the time when the visible light images were captured;

calculating radiographic geometry of each radiographic image relative to the radiographic source and the subject, wherein said calculation step comprises through stereoscopic analysis of the at least two visible light images ~~and through reference to the known geometric relation between the one or more visible light cameras and the radiographic source to determine relative positioning of the visible light cameras and the subject, and calculation of the radiographic geometry from the relative positioning and from the geometric relation between the radiographic source and the visible light cameras;~~

and

generating three-dimensional radiographic information on the subject by processing the ~~up to a plurality of one or more~~ radiographic images based on the radiographic geometry calculated in said calculating step.

2. (Original) A method according to Claim 1, wherein the three-dimensional radiographic information includes stereoscopic x-ray images.

3. (Original) A method according to Claim 1, wherein the three-dimensional radiographic information includes a tomosynthetic image at a designated slice depth into the subject.

4. (Currently Amended) A method according to Claim 1, wherein the three-dimensional radiographic information includes a plurality of tomosynthetic images at a plurality of designated slice depths into the subject, and wherein the method further comprises ~~comprising~~ the step of reconstructing a volume of the subject by combining the plurality of tomosynthetic images.

5. (Original) A method according to Claim 1, further comprising the step of registering one or more of the visible light images with the three-dimensional radiographic information.

6. (Currently Amended) A method according to Claim 1, wherein the known geometric relation between the ~~one or more~~ visible light cameras and the radiographic source is adjustable.

7. (Original) A method according to Claim 1, wherein the three-dimensional radiographic information includes a radiographic volume reconstructed from the plural radiographic images.

8. (Original) A method according to Claim 1, further comprising the steps of:

generating a surface topography of the subject by processing the visible light images; and

registering the surface topography with the three-dimensional radiographic information.

9. (Original) A method according to Claim 1, wherein at least two visible light cameras are used and wherein a first visible light camera is in a known geometric relation to the radiographic source and a geometric relation of a second visible light camera to the radiographic source is determined based on the known geometric relation of the first visible light camera to the radiographic source and a known geometric relation of the first visible light camera to the second visible light camera.

10. (Original) A method according to Claim 1, wherein the three-dimensional radiographic information includes a zoom factor for correcting magnification error in at least one radiographic image.

11. (Currently Amended) Computer-executable process steps stored on a computer-readable medium, said computer-executable process steps for processing ~~up to a plurality~~ one or more of radiographic images of a subject, said computer-executable process steps executable to perform a method comprising the steps of:

~~capturing at least two visible light images of the subject; two or more of the visible light images in correspondence to at least one~~ each ~~radiographic image obtained from a radiographic source,~~ the at least two visible light images being captured by one or more visible light cameras; ~~each visible light camera in a known geometric relation to a radiographic source;~~

obtaining a geometric relation between the radiographic source and the visible light cameras at the time when the visible light images were captured;

calculating radiographic geometry of each radiographic image relative to the radiographic source and the subject, wherein said calculation step comprises through stereoscopic analysis of the at least two visible light images and through reference to the known geometric relation between the one or more visible light cameras and the radiographic source to determine relative positioning of the visible light cameras and the subject, and calculation of the radiographic geometry from the relative positioning and from the geometric relation between the radiographic source and the visible light cameras;
and

generating three-dimensional radiographic information on the subject by processing the up to a plurality of one or more radiographic images based on the radiographic geometry calculated in said calculating step.

12. (Original) Computer-executable process steps according to Claim 11, wherein the three-dimensional radiographic information includes stereoscopic x-ray images.

13. (Original) Computer-executable process steps according to Claim 11, wherein the three-dimensional radiographic information includes a tomosynthetic image at a designated slice depth into the subject.

14. (Currently Amended) Computer-executable process steps according to Claim 11, wherein the three-dimensional radiographic information includes a plurality of tomosynthetic images at a plurality of designated slice depths into the subject, and wherein the method performed by the process steps further comprises ~~comprising~~ the step of reconstructing a volume of the subject by combining the plurality of tomosynthetic images.

15. (Original) Computer-executable process steps according to Claim 11, further comprising the step of registering one or more of the visible light images with the three-dimensional radiographic information.

16. (Currently Amended) Computer-executable process steps according to Claim 11, wherein the known geometric relation between the ~~one or more~~ visible light cameras and the radiographic source is adjustable.

17. (Original) Computer-executable process steps according to Claim 11, wherein the three-dimensional radiographic information includes a radiographic volume reconstructed from the plural radiographic images.

18. (Currently Amended) Computer-executable process steps according to Claim 11, wherein the method performed by the process steps further comprises comprising the steps of:

generating a surface topography of the subject by processing the visible light images; and

registering the surface topography with the three-dimensional radiographic information.

19. (Original) Computer-executable process steps according to Claim 11, wherein at least two visible light cameras are used and wherein a first visible light camera is in a known geometric relation to the radiographic source and a geometric relation of a second visible light camera to the radiographic source is determined based on the known geometric relation of the first visible light camera to the radiographic source and a known geometric relation of the first visible light camera to the second visible light camera.

20. (Original) Computer-executable process steps according to Claim 11, wherein the three-dimensional radiographic information includes a zoom factor for correcting magnification error in at least one radiographic image.

21. (Currently Amended) A computer-readable medium that stores computer-executable process steps, the computer-executable process steps for processing plural radiographic images of a subject, the computer-executable process steps executable to perform a method comprising the steps of:

capturing at least two visible light images of the subject; ~~two or more of the visible light images in correspondence to at least one each radiographic image obtained from a radiographic source,~~ the at least two visible light images being captured by one or more visible light cameras, ~~each visible light camera in a known geometric relation to a radiographic source;~~

obtaining a geometric relation between the radiographic source and the visible light cameras at the time when the visible light images were captured;

calculating radiographic geometry of each radiographic image relative to the radiographic source and the subject, wherein said calculation step comprises through stereoscopic analysis of the at least two visible light images and through reference to the known geometric relation between the one or more visible light cameras and the radiographic source to determine relative positioning of the visible light cameras and the subject, and calculation of the radiographic geometry from the relative positioning and from the geometric relation between the radiographic source and the visible light cameras; and

generating three-dimensional radiographic information on the subject by processing the ~~up to a plurality~~ one or more of radiographic images based on the radiographic geometry calculated in said calculating step.

22. (Original) A computer-readable medium according to Claim 21, wherein the three-dimensional radiographic information includes stereoscopic x-ray images.

23. (Original) A computer-readable medium according to Claim 21, wherein the three-dimensional radiographic information includes a tomosynthetic image at a designated slice depth into the subject.

24. (Currently Amended) A computer-readable medium according to Claim 21, wherein the three-dimensional radiographic information includes a plurality of tomosynthetic images at a plurality of designated slice depths into the subject, and wherein the method performed by the process steps further comprises ~~comprising~~ the step of reconstructing a volume of the subject by combining the plurality of tomosynthetic images.

25. (Original) A computer-readable medium according to Claim 21, the method further comprising the step of registering one or more of the visible light images with the three-dimensional radiographic information.

26. (Currently Amended) A computer-readable medium according to Claim 21, wherein the known geometric relation between the ~~one or more~~ visible light cameras and the radiographic source is adjustable.

27. (Original) A computer-readable medium according to Claim 21, wherein the three-dimensional radiographic information includes a radiographic volume reconstructed from the plural radiographic images.

28. (Currently Amended) A computer-readable medium according to Claim 21, wherein the method performed by the process steps further comprise comprising the steps of:

generating a surface topography of the subject by processing the visible light images; and

registering the surface topography with the three-dimensional radiographic information.

29. (Original) A computer-readable medium according to Claim 21, wherein at least two visible light cameras are used and wherein a first visible light camera is in a known geometric relation to the radiographic source and a geometric relation of a second visible light camera to the radiographic source is determined based on the known geometric relation of the first visible light camera to the radiographic source and a known geometric relation of the first visible light camera to the second visible light camera.

30. (Original) A computer-readable medium according to Claim 21, wherein the three-dimensional radiographic information includes a zoom factor for correcting magnification error in at least one radiographic image.

31. (Currently Amended) A system for processing up to a plurality of one or more radiographic images of a subject, comprising:

a radiographic source and sensor for acquiring the ~~up to a plurality of~~ radiographic images of the subject;

one or more visible light cameras ~~in a known~~ configured to capture at least two visible light images of the subject in correspondence to each radiographic image of the subject obtained by the radiographic sensor;

a memory for storing a geometric relation between the ~~to said~~ radiographic source for capturing at least two and the visible light cameras at the time when the visible light images of the subject were captured; and

a processor for calculating radiographic geometry of each radiographic image of the subject, wherein said calculation comprises ~~through~~ stereoscopic analysis of the at least two visible light images ~~and through reference to the known geometric relation between the one or more visible light cameras and the radiographic source~~ to determine relative positioning of the visible light cameras and the subject, and calculation of the radiographic geometry from the relative positioning and from the geometric relation between the radiographic source and the visible light cameras, and

wherein said processor generates generating three-dimensional radiographic information on the subject by processing the ~~up to a plurality of one or more~~ radiographic images based on the radiographic geometry;

~~wherein two or more of the visible light images are captured in~~
correspondence to at least one radiographic image.

32. (Original) A system according to Claim 31, wherein the three-dimensional radiographic information includes stereoscopic x-ray images.

33. (Original) A system according to Claim 31, wherein the three-dimensional radiographic information includes a tomosynthetic image at a designated slice depth into the subject.

34. (Currently Amended) A system according to Claim 31, wherein the three-dimensional radiographic information includes a plurality of tomosynthetic images at a plurality of designated slice depths into the subject, and wherein said processor reconstructs ~~further for reconstructing~~ a volume of the subject by combining the plurality of tomosynthetic images.

35. (Currently Amended) A system according to Claim 31, wherein said processor registers ~~further for registering~~ one or more of the visible light images with the three-dimensional radiographic information.

36. (Original) A system according to Claim 31, wherein the known geometric relation between said one or more visible light cameras and said radiographic source is adjustable.

37. (Original) A system according to Claim 31, wherein the

three-dimensional radiographic information includes a radiographic volume reconstructed from the plural radiographic images.

38. (Currently Amended) A system according to Claim 31, wherein said processor generates process further for generating a surface topography of the subject by processing the visible light images, and registering registers the surface topography with the three-dimensional radiographic information.

39. (Original) A system according to Claim 31, wherein the three-dimensional radiographic information includes a zoom factor for correcting magnification error in at least one radiographic image.

40. (Original) A system according to Claim 31, wherein at least two visible light cameras are used and wherein a first visible light camera is in a known geometric relation to the radiographic source and a geometric relation of a second visible light camera to the radiographic source is determined based on the known geometric relation of the first visible light camera to the radiographic source and a known geometric relation of the first visible light camera to the second visible light camera.